

SPEAKER
CLASSIFICATION
SYSTEM

100

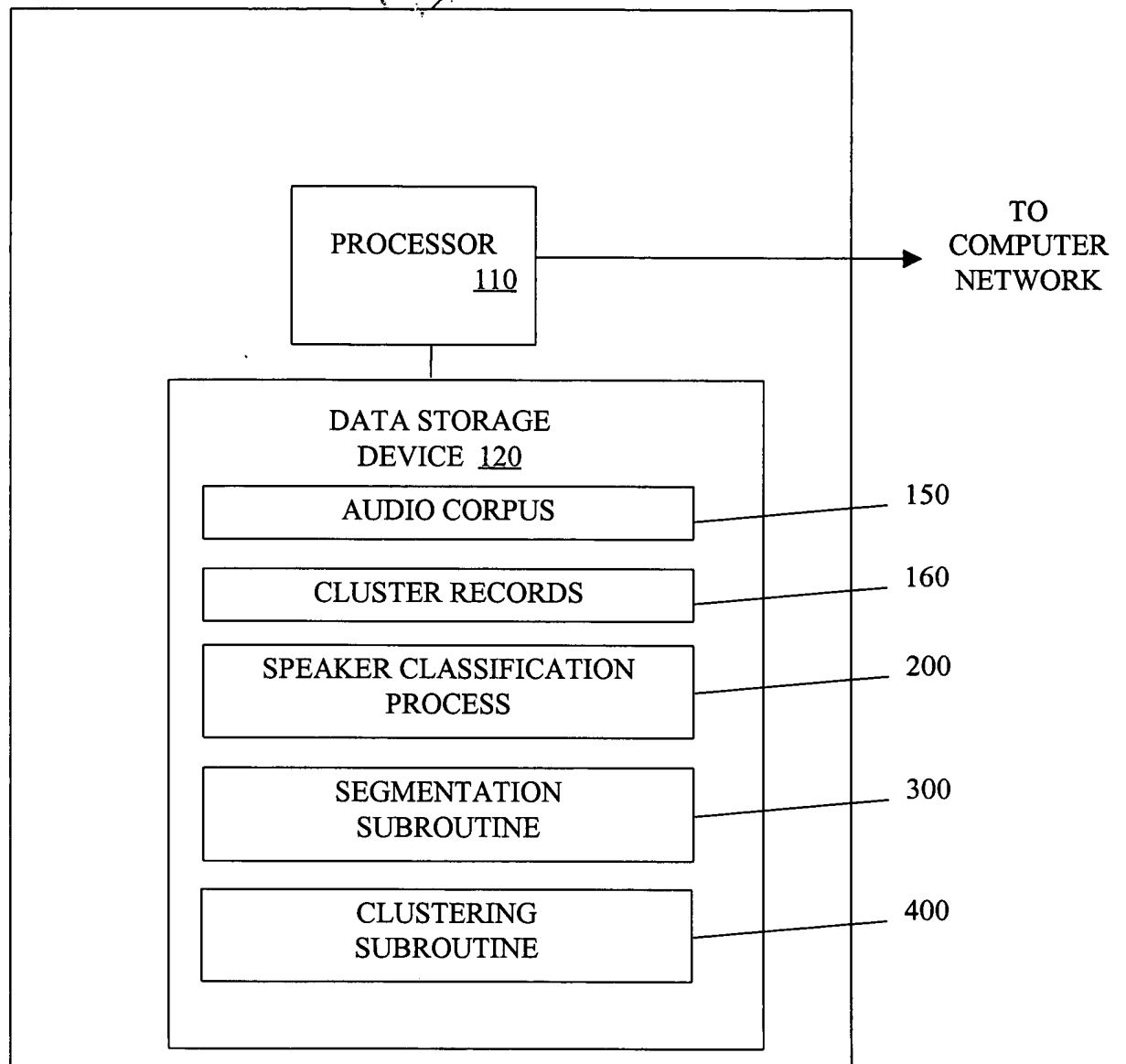


FIG. 1

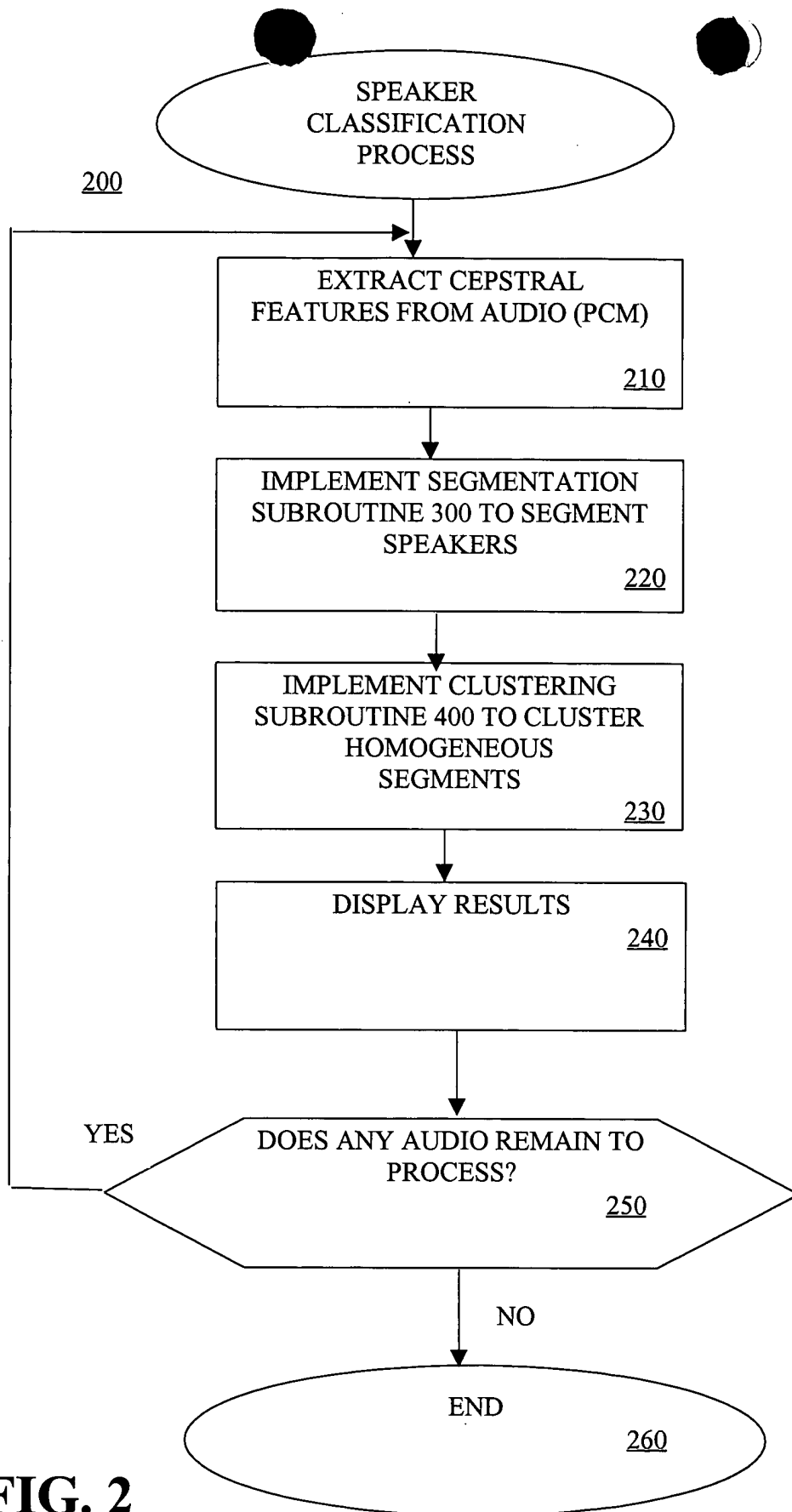


FIG. 2

FIG. 3

300

SEGMENTATION SUBROUTINE

FOR A WINDOW OF CONSECUTIVE DATA SAMPLES
(x_1, \dots, x_n), ESTABLISH TWO SUBSAMPLES (x_1, \dots, x_i)
AND (x_{i+1}, \dots, x_n) 310

$$\alpha = \frac{n}{r} - 1$$

315

YES

$$\alpha > \alpha_{\max} ?$$

NO

320

$$i = (\alpha - \alpha_{\max} + 1) \cdot r$$

324

$$i = r$$

328

CALCULATE DIFFERENCE IN BIC VALUES FOR
CURRENT VALUE OF i :

$$\Delta BIC_i = -\frac{n}{2} \log |\Sigma_w| + \frac{i}{2} \log |\Sigma_f| + \frac{n-i}{2} \log |\Sigma_s| \\ + \frac{1}{2} \lambda \left(d + \frac{d(d+1)}{2} \right) \log n$$

330

NO

$$i = n - r ?$$

340

YES

IS SMALLEST DIFFERENCE IN
BIC VALUES (ΔBIC_{i_0})
NEGATIVE? 360

YES

SELECT i_0 AS SEGMENT BOUNDARY 370

MOVE BEGINNING OF NEW WINDOW TO $i_0 + 1$
AND SET NEW WINDOW SIZE TO N_0 375

$$i = i + r$$

350

INCREASE
WINDOW SIZE 365

FIG. 4

